REMARKS

Claims 7, 11, 12 and 16-40 are active in this application.

The claims are directed to a pickle solution which contains at least one protein, at least one transglutaminase, an ammonium salt in an amount of from 0.001 mol/liter to 0.02 mol/liter and water (see Claim 7).

The rejections of Claims 7, 11, 12, 16-18, 23, 24, 29, 30, 35, and 36 under 35 U.S.C. §103(a) over Susa et al or Soeda et al in view of Nowsad et al are obviated by amendment.

Susa et al and Soeda et al do not describe ammonium salt. Nowsad et al describe that amine salts such as ammonium salts in a concentration of 0.1 to 1.0 molar inhibit transglutaminase (see page 1017, column 1, first paragraph). In addition, Nowsad et al describe that "the breaking force and breaking strain showed a tendency of gradual decrease with the increase of the mole fraction of ammonium chloride and various amine salts added . . ." (Page 1018, column 2, , 4th paragraph, referencing Figure 1). However, the cited references fail to describe selecting a specific range of ammonium salt, i.e., 0.01 mol/liter to ***0.02*** mol/liter. Noswad et al simply does not describe any deviance from the disclosed range of ammonium salts nor provide any reason to do so.

As a result, the combination of prior art does not suggest that the claimed range of ammonium salt would be expected to have advantages for the pickle solution in which the salt had been added.

Evidence of the superior results obtained for the claimed range of ammonium salts, which has been conceded by the Examiner (Office Action of December 4, 2003, page 3, lines

3-5), can be found in Tables 1-3 (see pages 10-12). Consistent with this indication, Applicants have amended the claims to restrict the claimed range to 0.001 to 0.02 mol/liter.

Despite the fact that the Examiner has recognized the superior advantages provided by a ammonium salt concentration in the range of 0.001 to 0.02 mol/liter, it appears that the Office has continued to misunderstand, in part, these data (referring to the discussion on page 3 of the Office Action). Therefore, the data are again reproduced and discussed below.

Table 1. Pickle solution

Ingredients	**Concentration (%)**
Soy bean protein for ham	4
Sodium casein	1.5
Egg white	2
Whey protein	1.5
Sodium chloride	4
Sodium nitrite	0.03
Polymerized phosphate (salt)	0.6
Ascorbic acid	0.2
Dextrin	7.5
Sugar	0.7
Glutamate Na	0.3
Water	77.67
Total	100

Table 2. TGase and TGase suppressing compounds in pickle solutions

Experimental groups	**TGase (U/liter)**	**NH_4Cl (mol/liter)**	**Anserine (mol/liter)**	**Carnosine (mol/liter)**
(1)	0	0	-	-
(2)	50	0	-	-
(3)	100	0	-	-
(4)	150	0	-	-
(5)	200	0	-	-
(6)	200	0.002	-	-
(7)	200	0.02	-	-
(8)	200	0.2	-	-
(9)	200	-	0.2	-
(10)	200	-	-	0.2

Table 3. Pickle viscosity, physical properties and quality assessment of the model ham

	Pickle viscosity (cP) at 5°C				Breaking strength of the model ham (gram)	Quality assessment of the model ham*
Experimental groups	Immediately after preparation	one day later	2 days later	3 days later		
(1)	29	30	32	34	537	X
(2)	31	35	41	83	599	X
(3)	30	94	125	444	680	Δ
(4)	32	74	153	808	733	O
(5)	27	114	317	3855	773	O
(6)	26	52	110	312	770	O
(7)	31	44	66	95	752	O
(8)	30	31	36	45	686	Δ
(9)	31	41	58	87	722	O
(10)	31	42	56	90	734	O

*: Effect of the TGase on firmness of the ham
X : insufficient;
Δ : slightly insufficient; and
O : sufficient.

The pickle solution is shown in Table 1 and the amounts of transglutaminase (Tgase) and ammonium chloride (NH_4CL) added to the pickle solution is shown in Table 2. This pickle solution was then added to meat to produce a ham (see page 11) and the quality of the ham was assessed, the results of which are presented in Table 3.

These data show that when the ammonium salt is in an amount of 0.2 (experimental group (8)) the breaking strength of the model ham and quality assessment of the model ham were significantly lower compared to ham prepared with pickle solutions with an ammonium salt concentration within the claimed range, i.e., 0.02 and 0.002 (see experimental Groups (6) and (7)).

The differences that establish the superiority of the claimed ammonium salt range is provided by comparing Groups (6) and (7) with Group (8). However, the Office still questions the differences between Groups (4)-(7). Contrary to the Office's interpretation of these data, the data between Groups (4) and (5) relative to Groups (6) and (7) **do not** support a conclusion that the results are substantially equivalent (referring to the discussion on page 3 of the Office Action). Note that no ammonium salt was added to the solution of Groups (4) and (5) (see Table 2 reproduced above). The absence of ammonium salt in these two groups yielded a pickle solution with significantly higher viscosities, particular in comparison to the viscosity of the pickle solutions in Groups (6) and (7) (compare pickle viscosities in Table 3 reproduced above). As discussed on page 2, lines 22-24 of the specification: "This increase in viscosity makes subsequent use of the pickle difficult and if the method of producing the meat involves injection, makes the procedure almost impossible to conduct."

Moreover, at page 6, lines 8-16, Applicants discuss the fact that "the compound is added in an amount suitable to inhibit TGase activity to such an extent that the increase of the viscosity of the resulting pickle is sufficiently suppressed but not to substantially reduce the effect of the TGase in the final food product..." Therefore, it is clear that the viscosity changes are just as important a parameter for assessing the advantageous properties flowing from the claimed invention as breaking strength and quality assessment would be.

In light of the above and the Examiner's conceded superiority of the claimed range, the present claims would not have been obvious in view of Susa et al or Soeda et al in view of Nowsad et al.

Therefore, withdrawal of the rejection under 35 U.S.C. § 103(a) is requested.

Finally, Applicants remind the Examiner that MPEP §821.04 states:

> ...if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim ***will*** be rejoined. (emphasis added)

Applicants respectfully submit that should the elected group be found allowable, non-elected process claims (Claims 19-21, 25-27, 31-33, and 37-39) that include all the limitations of the allowable product should be rejoined.

Applicants submit that the present application is now in condition for allowance. Early notification of such action is earnestly solicited.

Respectfully submitted,

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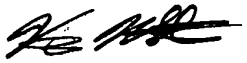

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